



STATE OF MARYLAND

DMMH

Maryland Department of Health and Mental Hygiene
201 W. Preston Street, Baltimore, Maryland 21201

Martin O'Malley, Governor – Anthony G. Brown, Lt. Governor – John M. Colmers, Secretary

Office of Preparedness & Response

Sherry Adams, R.N., C.P.M, Director

Isaac P. Ajit, M.D., M.P.H., Deputy Director

October 30, 2009

Public Health & Emergency Preparedness Bulletin: # 2009:42 Reporting for the week ending 10/24/09 (MMWR Week #42)

CURRENT HOMELAND SECURITY THREAT LEVELS

National: Yellow (ELEVATED) *The threat level in the airline sector is Orange (HIGH)
Maryland: Yellow (ELEVATED)

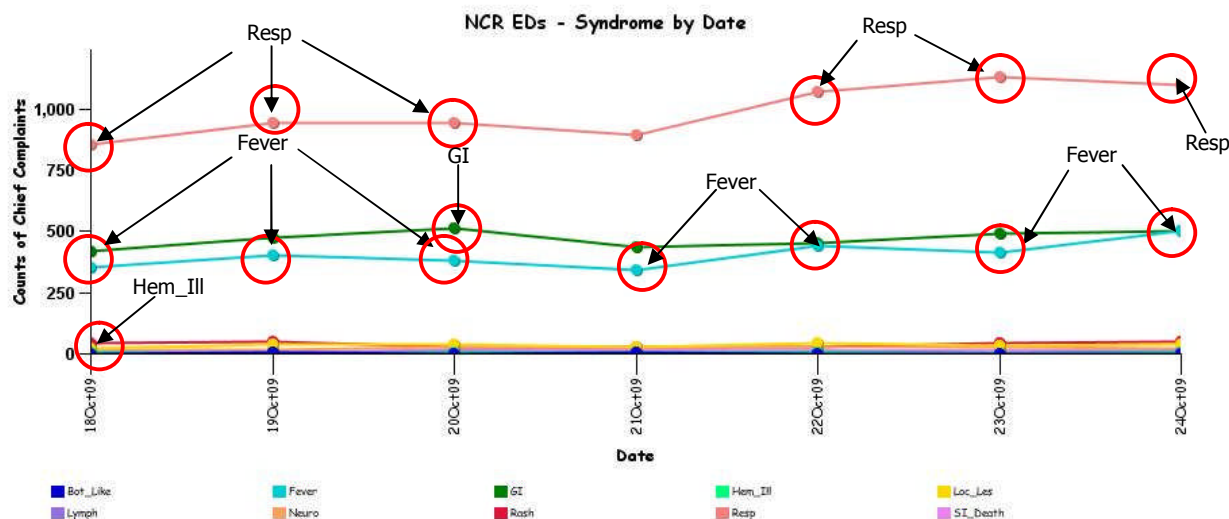
SYNDROMIC SURVEILLANCE REPORTS

ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics):

Graphical representation is provided for all syndromes, excluding the "Other" category, all age groups, and red alerts are circled.

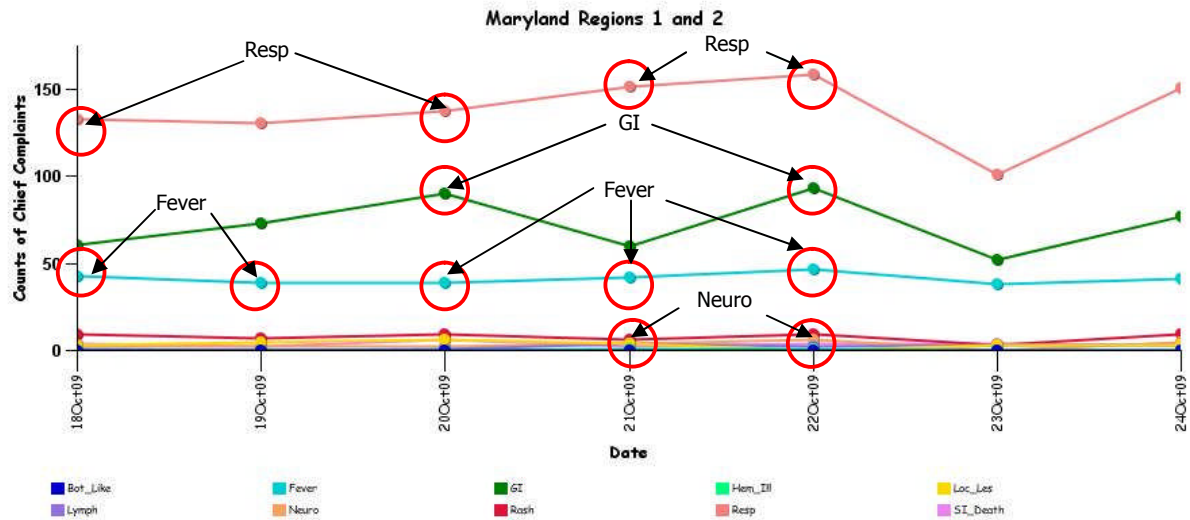
Note: ESSENCE – ANCR Spring 2006 (v 1.3) now uses syndrome categories consistent with CDC definitions.

Overall, no suspicious patterns of illness were identified. Track backs to the health care facilities yielded no suspicious patterns of illness.

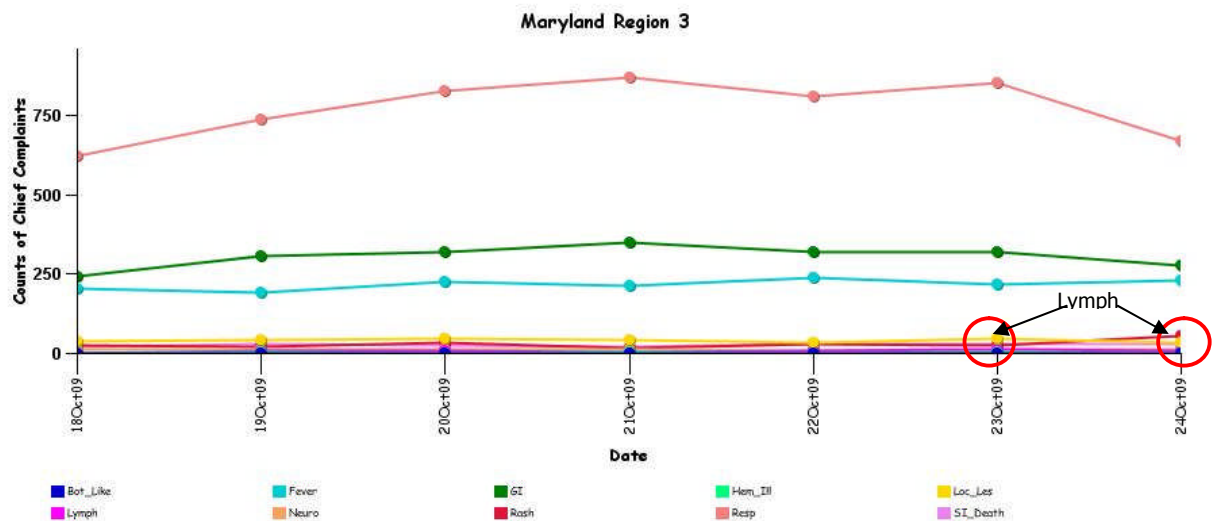


* Includes EDs in all jurisdictions in the NCR (MD, VA, and DC) reporting to ESSENCE

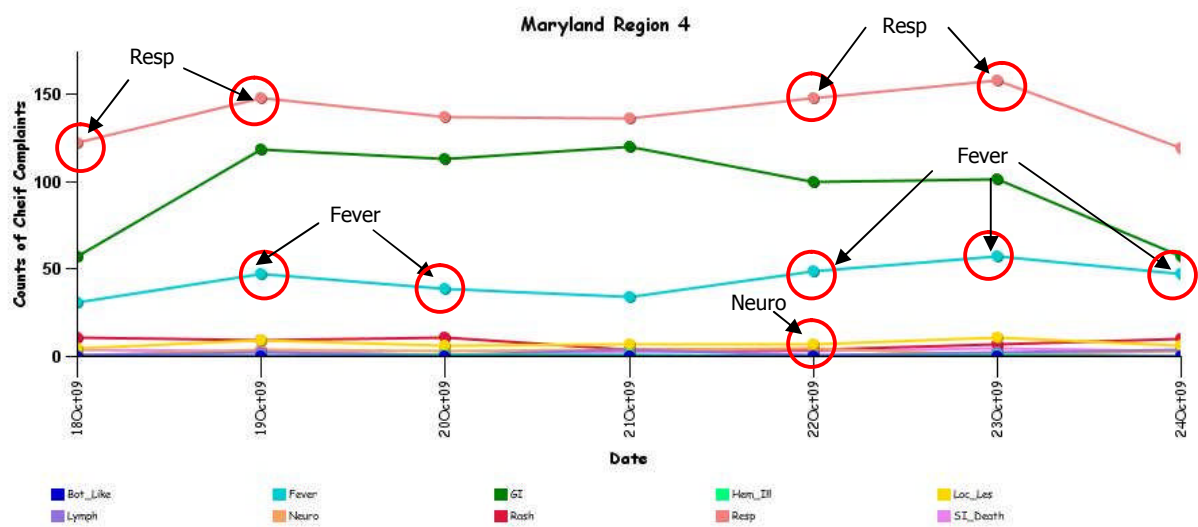
MARYLAND ESSENCE:



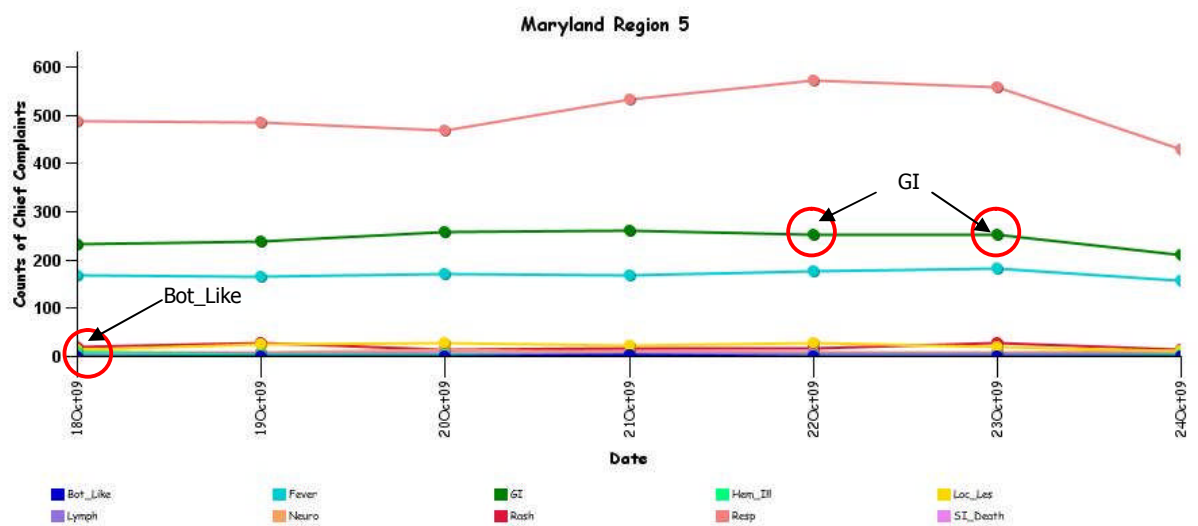
* Region 1 and 2 includes EDs in Allegany, Frederick, Garrett, and Washington counties reporting to ESSENCE



* Region 3 includes EDs in Anne Arundel, Baltimore city, Baltimore, Carroll, Harford, and Howard counties reporting to ESSENCE

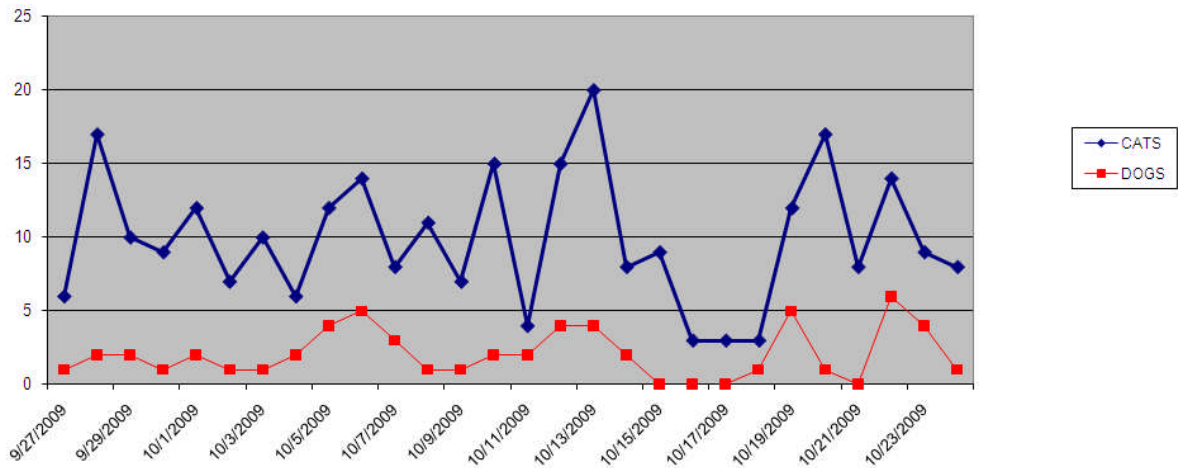


* Region 4 includes EDs in Cecil, Dorchester, Kent, Somerset, Talbot, Wicomico, and Worcester counties reporting to ESSENCE



* Region 5 includes EDs in Calvert, Charles, Montgomery, Prince George's, and St. Mary's counties reporting to ESSENCE

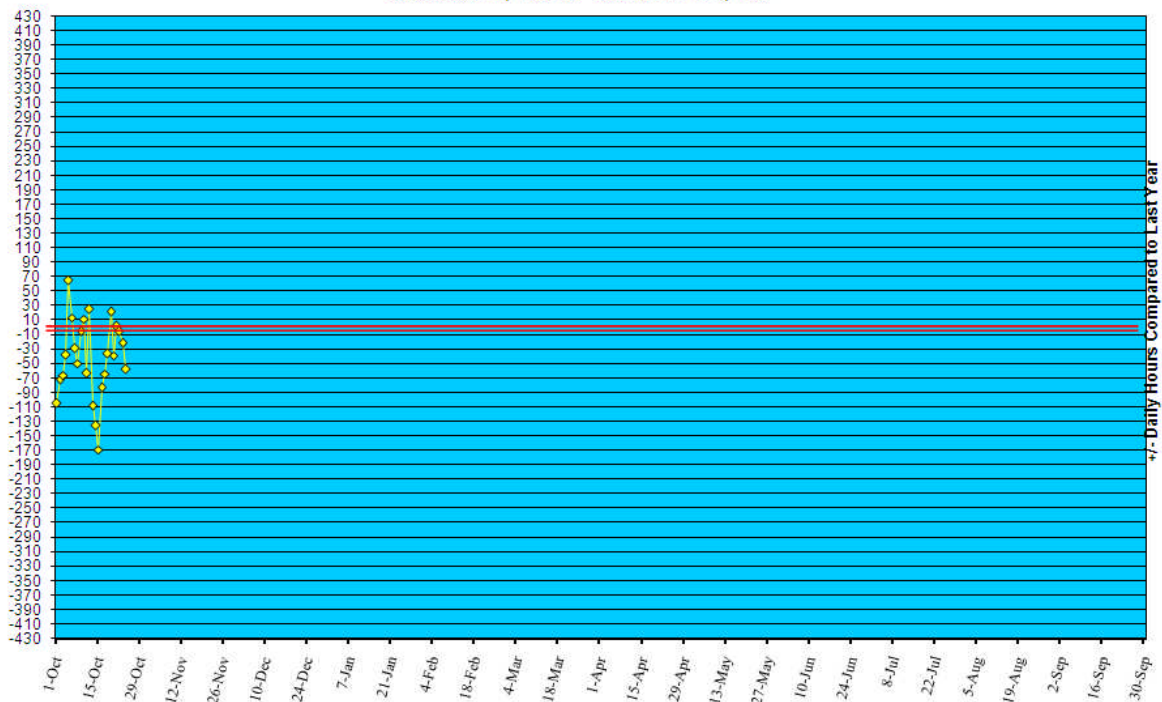
BALTIMORE CITY SYNDROMIC SURVEILLANCE PROJECT: No suspicious patterns in the medic calls, ED Syndromic Surveillance and the animal carcass surveillance. Graphical representation is provided for animal carcass surveillance 311 data.



REVIEW OF EMERGENCY DEPARTMENT UTILIZATION

YELLOW ALERT TIMES (ED DIVERSION): The reporting period begins 10/01/09.

Statewide Yellow Alert Comparison Daily Historical Deviations October 1, '09 to October 24, '09



REVIEW OF MORTALITY REPORTS

Office of the Chief Medical Examiner: OCME reports no suspicious deaths related to BT for the week.

MARYLAND TOXIDROMIC SURVEILLANCE

Poison Control Surveillance Monthly Update: Investigations of the outliers and alerts observed by the Maryland Poison Center and National Capital Poison Center in September 2009 did not identify any cases of possible terrorism events.

REVIEW OF MARYLAND DISEASE SURVEILLANCE FINDINGS

COMMUNICABLE DISEASE SURVEILLANCE CASE REPORTS (confirmed, probable and suspect):

Meningitis:	<u>Aseptic</u>	<u>Meningococcal</u>
New cases (Oct 18- Oct 24, 2009):	07	0
Prior week (Oct 11- Oct 17, 2009):	16	0
Week#42, 2008 (Oct 12 – Oct 18, 2008):	10	0

OUTBREAKS: 75 outbreaks were reported to DHMH during MMWR Week 42 (October 18- 24, 2009):

74 Respiratory illness outbreaks

61 outbreaks of ILI in Schools
4 outbreaks of ILI in Daycares
1 outbreak of ILI in a Hospital
5 outbreaks of INFLUENZA in Schools
1 outbreaks of INFLUENZA in a Daycare
2 outbreaks of INFLUENZA in Institutions

1 Gastroenteritis outbreak

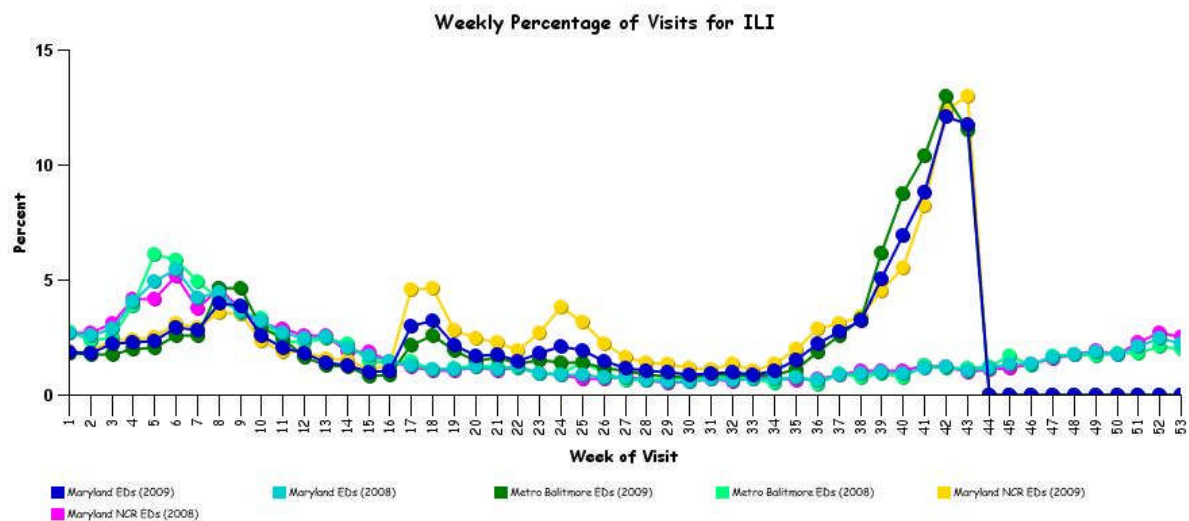
1 outbreak of SHIGELLOSIS associated with a Daycare

MARYLAND INFLUENZA STATUS: Influenza activity in Maryland for Week 42 is WIDESPREAD.

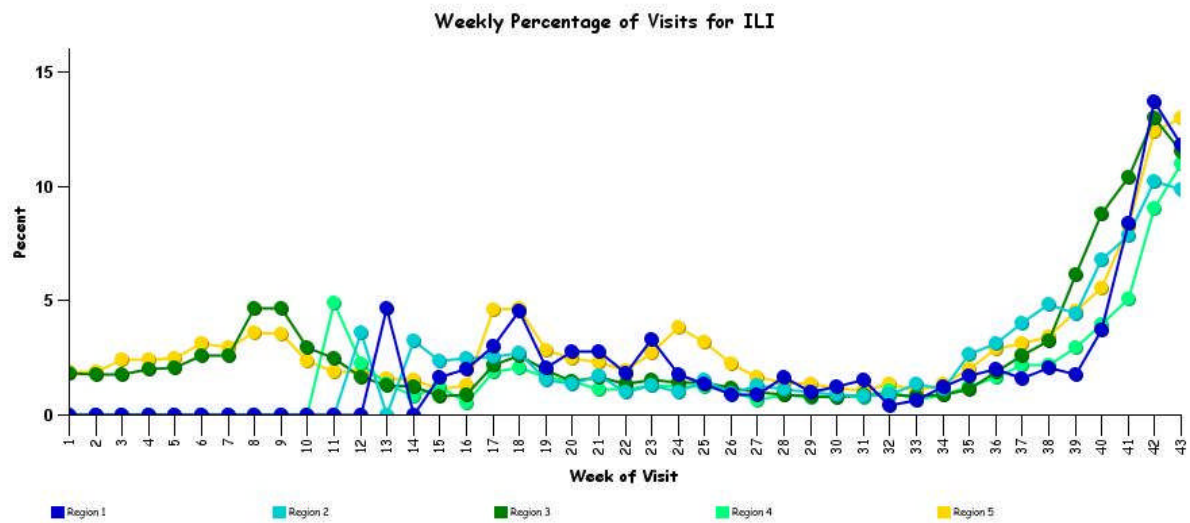
SYNDROMIC SURVEILLANCE FOR INFLUENZA-LIKE ILLNESS

Graphs show the percentage of total weekly Emergency Department patient chief complaints that have one or more ICD9 codes representing provider diagnoses of influenza-like illness. These graphs do not represent confirmed influenza.

Graphs show proportion of total weekly cases seen in a particular syndrome/subsyndrome over the total number of cases seen. Weeks run Sunday through Saturday and the last week shown may be artificially high or low depending on how much data is available for the week.



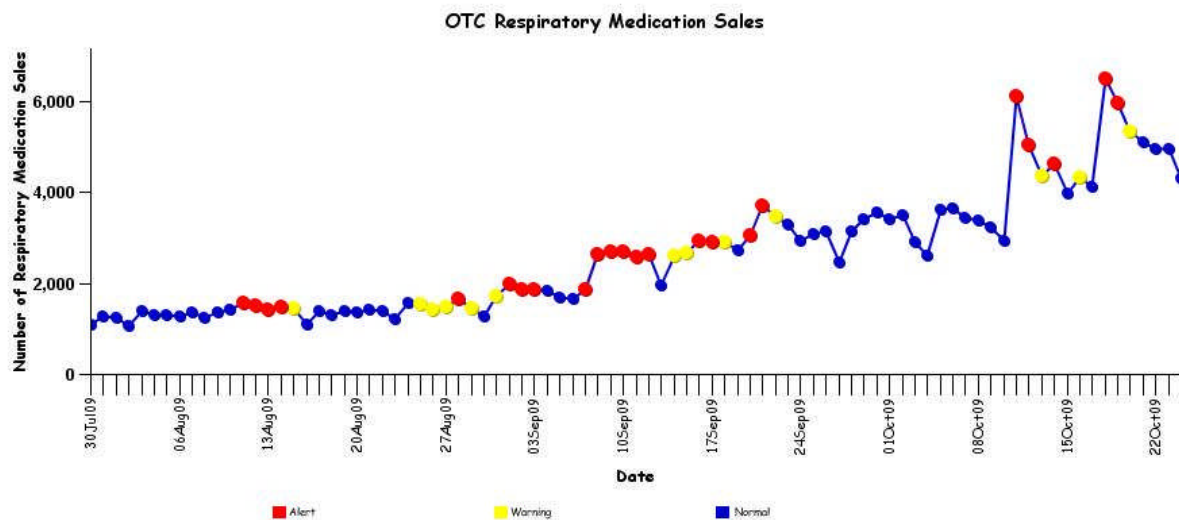
* Includes 2008 and 2009 Maryland ED visits for ILI in Metro Baltimore (Region 3), Maryland NCR (Region 5), and Maryland Total



*Includes 2009 Maryland ED visits for ILI in Region 1, 2, 3, 4, and 5
2009 data for these regions are depicted separately to establish baselines, due to the addition of new hospitals in these regions.

OVER-THE-COUNTER (OTC) SALES FOR RESPIRATORY MEDICATIONS:

Graph shows the daily number of over-the-counter respiratory medication sales in Maryland at a large pharmacy chain.



PANDEMIC INFLUENZA UPDATE:

WHO Pandemic Influenza Phase: Phase 6: Characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. Designation of this phase will indicate that a global pandemic is under way. Definition of Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

US Pandemic Influenza Stage: Stage 0: New domestic animal outbreak in at-risk country

****More information regarding WHO Pandemic Influenza Phase and US Pandemic Influenza Stage can be found at:**
[http://preparedness.dhmmh.maryland.gov/Docs/PandemicInfluenza/PandemicInfluenzaResponseAnnex\(Vers7.2\).pdf](http://preparedness.dhmmh.maryland.gov/Docs/PandemicInfluenza/PandemicInfluenzaResponseAnnex(Vers7.2).pdf)

AVIAN INFLUENZA-RELATED REPORTS:

WHO update: As of September 24, 2009, the WHO-confirmed global total of human cases of H5N1 avian influenza virus infection stands at 442, of which 262 have been fatal. Thus, the case fatality rate for human H5N1 is about 60%.

AVIAN INFLUENZA, WILD BIRDS (COTE D'IVOIRE): 21 Oct 2009, Agricultural authorities in the Ivory Coast report that 30 wild white-necked ravens have been found dead and 9 tested positive on the highly pathogenic avian influenza virus H5N1. The birds died suddenly while they were flying over the secondary school located at Cocody in Abidjan. The school was closed for 3 days. The staff members who handled the birds are under medical supervision. The site and its surroundings have been completely disinfected using Virkon. A surveillance zone was established within a 2 km [1.2 mi] radius around the point where the birds fell.

H1N1 INFLUENZA (Swine Flu):

INFLUENZA PANDEMIC (H1N1), CANADA (ONTARIO) OSELTAMIVIR RESISTANCE: 22 Oct 2009, Ontario Public Health Laboratory (OPHL), Ontario Agency for Health Protection and Promotion (OAHPP) performs molecular testing for pandemic (H1N1) 2009 (pH1N1) for the province of Ontario, Canada. In addition, surveillance for antiviral resistance using the CDC pyrosequencing assay is done on a selection of samples, with over 300 pH1N1 samples tested at OPHL since the onset of the pandemic(1). On 9 Aug 2009 influenza A was detected at a referring hospital in a nasopharyngeal (NP) swab collected from a young adult in his 20s with an underlying hematological malignancy; the sample was forwarded to OPHL for subtyping and identified as pH1N1 by real-time reverse transcriptase PCR (rRT-PCR). The patient was commenced on oseltamivir on 9 Aug 2009, and received treatment dose (75 mg twice daily orally) intermittently from 10-20 Aug, 25-26 Aug, 16 Aug-18 Sep, and 25-27 Sep 2009. Influenza A was detected on repeat NP swabs tested at the local hospital on 17 and 24 Aug, and 1 and 7 Sep 2009. The 7 Sep 2009 influenza A positive NP swab collected after 24 days of intermittent therapy was forwarded to OPHL, which was subtyped as pH1N1 by rRT-PCR. In early October, as part of the Ontario's surveillance project for antiviral resistance, the sample was tested by pyrosequencing for oseltamivir resistance, and was found to contain the H275Y mutation (histidine to tyrosine; H274Y in N2 numbering) conferring oseltamivir resistance. This mutation was confirmed with Sanger sequencing at OPHL and at Canada's National Microbiology Laboratory (NML). The original sample collected on 9 Aug 2009 was also tested for oseltamivir resistance with no evidence of the H275Y mutation. Phenotypic neuraminidase inhibitor resistance testing is being conducted at NML. The patient improved clinically and was discharged home one day following the collection of the NP swab containing the resistant isolate. Subsequent NP swabs on 9 and 24 Sep 2009 were negative for influenza A. Unfortunately, he required readmission to the hospital a few weeks following the discharge due to overwhelming Epstein Barr virus infection and subsequently died. The NP swab performing during the 2nd admission (24 Sep 2009) was negative for influenza A by DFA [direct fluorescent antibody] and PCR. To our knowledge, this represents Canada's 3rd case of oseltamivir resistant pH1N1, with Quebec and Alberta documenting one case each. As has been previously documented, immunocompromised patients are at risk of prolonged viral shedding with pH1N1, and prolonged therapy with oseltamivir predisposes them to develop infection due to neuraminidase resistant virus during the course of therapy(4). Resistance should also be considered in patients who develop pH1N1 infection while on oseltamivir prophylaxis, as has been recently documented. Oseltamivir resistance remains very rare, with 35 episodes reported by the World Health Organization (WHO) as of 16 Oct 2009. Taiwan oseltamivir resistance will have become the 36th case. Although its prevalence is very low to warrant any change in empiric antiviral therapy for pH1N1 infection, it is important to continue with the surveillance for antiviral resistance as it is possible that resistance to oseltamivir may evolve over time. Resistance testing also has an important clinical role in patients who are persistently shedding the virus and not clinically improving despite treatment and for those who develop pH1N1 infection while receiving oseltamivir prophylaxis.

INFLUENZA A (H1N1) 2009, OSELTAMIVIR RESISTANCE (TAIWAN): On Tue 20 Oct 20, 2009, the Central Epidemic Command Center (CECC) announced the discovery of the 1st oseltamivir-resistant influenza (H1N1) virus strain in Taiwan. According to statistics announced by the World Health Organization (WHO), a total of 10 countries have discovered a total of 35 strains of antiviral-resistant influenza A (H1N1) virus. According to the epidemiological investigation conducted by the Taiwan Centers for Disease Control (Taiwan CDC), the 1st oseltamivir-resistant influenza A (H1N1) virus strain in Taiwan was discovered in an individual case and no signs of cluster outbreak or further transmission have been detected. In addition, CECC has reported the case to WHO. The oseltamivir-resistant influenza A (H1N1) virus strain was isolated from a 20-year-old male who lives in southern

Taiwan. The case developed influenza-like symptoms such as fever and cough on 1 Sep 2009. The case was sent to the hospital and found to be positive for influenza A by the rapid influenza diagnostic test. The case's chest x-ray showed signs of pneumonia. The case was hospitalized for treatment using oseltamivir. Prior to treatment, on 1 Sep 2009, the specimen collected from the case was sensitive to oseltamivir. However, the specimen collected from the case on 4 Sep 2009 detected the H275Y mutation that is resistant to oseltamivir, showing mutation of the virus after the treatment was administered. After further treatment, the case has recovered and discharged from the hospital on 20 Sep 2009. So far, 4 family members of the case of oseltamivir-resistant influenza A (H1N1) who live in the same household have not developed influenza-like symptoms. 6 of the 9 cases of influenza A (H1N1) who live in the same area as the case of oseltamivir-resistant influenza A (H1N1) are infected with influenza A (H1N1) virus that is sensitive to oseltamivir, while the other 3 cases had lower viral loads and could not be tested for oseltamivir sensitivity. Nevertheless, all 9 cases have recovered from the disease. On the other hand, the case of oseltamivir-resistant influenza A (H1N1) has come into contact with 45 people during his hospitalization, but none of the close contacts have developed influenza-like symptoms such as fever. Taiwan CDC has conducted antiviral resistance testing on the other 292 strains of influenza A (H1N1) virus isolated from cases that occurred in Taiwan and none of the 292 strains have shown oseltamivir resistance, showing that the case of oseltamivir-resistant virus is sporadic and has not resulted in community transmission. Taiwan CDC will continue to expand the surveillance of influenza A (H1N1) antiviral resistance. According to the latest statistics announced by WHO, a total of 35 strains of antiviral-resistant influenza A (H1N1) virus have been detected in 10 countries, including Denmark, Japan, Canada, the United States, China, Singapore, Hong Kong, Thailand, Brazil, and Argentina. All the antiviral resistant virus strains were detected in individual cases. CECC once again urged the public to put on a mask, seek medical attention immediately, and take medicine according to the physician's instructions when influenza-like symptoms develop and refrain from taking self-purchased medicine.

Resources:

<http://www.cdc.gov/h1n1flu/>

<http://www.dhmf.maryland.gov/swineflu/>

NATIONAL DISEASE REPORTS

BOTULISM, BABY FOOD, UNEVISCEATED FISH, RISK, RECALL (USA): 19 Oct 2009, Plum Organics of Emeryville, California, is recalling some of its apple and carrot portable pouch baby food because of concerns over possible botulism contamination. The product was sold individually throughout the country at Toys-R-Us and Babies-R-Us stores. The recalled product is sold in 4.22-ounce pouches, with a "best by" date of 21 May 2010, and UPC 890180001221. "The product did not meet the FDA guidelines for proper acidity level," Paul Gerhardt, a member of the Plum Organics action team, said in a statement. The company is concerned that the baby food may be contaminated with *Clostridium botulinum*, which can cause botulism, a serious and sometimes life-threatening condition. Consumers should not use these products, even if they appear to be normal, because of the possible health risk. No illnesses have been reported in connection with the baby food, and no other Plum Organics products are affected, the company said in a statement. (Botulism is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

INTERNATIONAL DISEASE REPORTS

MUSHROOM POISONING, (Ukraine): 24 Oct 2009, Five people were hospitalized on 17 Oct 2009, soon after they had eaten roast mushrooms. The symptoms of poisoning developed quite fast, only 1.5 hours after the meal. All were admitted in a serious condition. Currently they all are out of danger and have been transferred from the intensive care unit (ICU) to an ordinary ward, the doctors say. The mushrooms that caused this poisoning were bought from a near road trader on the way back from Crimea a month ago. The buyer stored the mushrooms in the freezer of his apartment. The specialists think that these mushrooms are definitively the cause of this outbreak but they cannot take a sample for testing because everyone from that apartment are in the hospital now. There were 12 mushroom poisoning cases in Melitopol last year after 3 years without any poisoning cases. (Food Safety Threats are listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

CHIKUNGUNYA, SUSPECTED (VIET NAM): 22 Oct 2009, Viet Nam is verifying an outbreak in Hanoi of a mosquito-borne virus that closely resembles the dengue fever virus, a health ministry official said on Monday [19 Oct 2009]. So far, 60 percent of patients with classic dengue symptoms have tested negative for dengue, according to Vu Sinh Nam, deputy director general of the Preventive Health and Environment Department. At this stage it seems they have contracted the look-a-like chikungunya virus, which is carried by the *Aedes albopictus* mosquito. They have caught some *Aedes albopictus* mosquitoes in Hanoi and are trying to determine whether they are responsible and whether they really do have an outbreak of chikungunya [virus infection], Nam said. It's recurred in regional countries like India, Thailand, and Singapore, and some deaths have been recorded in consequence, according to Nam. Nam said it was hard to tell the 2 diseases apart without testing as the symptoms were virtually identical. The World Health Organization is helping out by supplying Viet Nam with 50 testing kits for the chikungunya virus. The kits have already been distributed to the northern Pasteur Institutes and Institutes of Hygiene and Epidemiology for testing people who present with dengue-like symptoms at local cities and big towns. Since the beginning of this year [2009], 6750 people in Hanoi have been admitted to hospital with dengue symptoms, 14 times more than in the same period last year [2008], according to the

Ministry of Health. (Emerging Infectious Diseases are listed in Category C on the CDC list of Critical Biological Agents) *Non-suspect case

CHIKUNGUNYA, SUSPECTED (INDIA): 20 Oct 2009, Many villagers in Meenakshipuram, Durairajapuram, Anaikaraipatti, Visuvasa puram, Ammapatti, Sillamarathupatti and Silamalai in Bodi block of Theni district were found to be suffering from high fever. Diagnosis showed that many of them were suffering from chikungunya [virus infection]. More than 1200 patients came to the Bodi Government Hospital in Theni from Meenakshipuram, Durairajapuram and Anaikaraipatti villages. More than 400 of them were found to be suffering from chikungunya [virus infection]. Since the hospital has only limited bed strength, most of them were treated as outpatients and asked to go home. Many of them from Meenakshipuram are so ill that they are unable to get back to their village and are waiting for admission. Only a limited number of patients have been admitted to the hospital. Patients from the villages come to the government hospital for want of proper facilities in the primary health centres in their areas. Bodi hospital itself is handicapped without adequate staff and proper stocks of medicines. Thirumurugan, block medical officer of Dombucherry, said that they found an outbreak of chikungunya in Ammapatti village but they had brought it under control. Now this ailment had spread in some villages, including Meenakshipuram. Doctors have collected blood samples and had sent them for analysis. The Department of Health had taken various measures to check the spread of this disease, including spraying of chemicals, fogging and clearing waste materials. Special camps are also being organised in villages to detect cases of chikungunya, the block medical officer said. (Emerging Infectious Diseases are listed in Category C on the CDC list of Critical Biological Agents) *Non-suspect case

OTHER RESOURCES AND ARTICLES OF INTEREST

More information concerning Public Health and Emergency Preparedness can be found at the Office of Preparedness and Response website: <http://preparedness.dhmdh.maryland.gov/>

Maryland's Resident Influenza Tracking System: www.tinyurl.com/flu-enroll

NOTE: This weekly review is a compilation of data from various surveillance systems, interpreted with a focus on a potential BT event. It is not meant to be inclusive of all epidemiology data available, nor is it meant to imply that every activity reported is a definitive BT event. International reports of outbreaks due to organisms on the CDC Critical Biological Agent list will also be reported. While not "secure", please handle this information in a professional manner. Please feel free to distribute within your organization, as you feel appropriate, to other professional staff involved in emergency preparedness and infection control.

For questions about the content of this review or if you have received this and do not wish to receive these weekly notices, please e-mail me. If you have information that is pertinent to this notification process, please send it to me to be included in the routine report.

Heather N. Brown, MPH
Epidemiologist
Office of Preparedness and Response
Maryland Department of Health & Mental Hygiene
300 W. Preston Street, Suite 202
Baltimore, MD 21201
Office: 410-767-6745
Fax: 410-333-5000
Email: HBrown@dhmh.state.md.us

Sadia Aslam, MPH
Epidemiologist
Office of Preparedness and Response
Maryland Department of Health & Mental Hygiene
300 W. Preston Street, Suite 202
Baltimore, MD 21201
Office: 410-767-2074
Fax: 410-333-5000
Email: SAslam@dhmh.state.md.us